R E P O R T R E S U M E S

ED 013 644 JC 670 891

SELECTED CHARACTERISTICS, SOCIOECONOMIC STATUS, AND LEVELS OF ATTAINMENT OF STUDENTS IN PUBLIC JUNIOR COLLEGE OCCUPATION-CENTERED EDUCATION.

BY- HAKANSON, JOHN W.
CALIFORNIA UNIV., BERKELEY, SCHOOL OF EDUC.

REPORT NUMBER BR-6-8420 PUB DATE 30 APR 67
GRANT OEG-4-6-68420-1581
EDRS PRICE MF-$0.25 HC-$1.96 49P.

DESCRIPTORS- *JUNIOR COLLEGES, *TERMINAL STUDENTS, *VOCATIONAL EDUCATION, TERMINAL EDUCATION, *SOCIOECONOMIC BACKGROUND,

A STUDY OF 1,000 STUDENTS WHO ENTERED SIX PUBLIC JUNIOR COLLEGES IN FALL 1959 WAS DESIGNED TO IDENTIFY CERTAIN CHARACTERISTICS OF STUDENTS IN TERMINAL OCCUPATIONAL PROGRAMS. THE EMPHASIS WAS ON SOCIOECONOMIC BACKGROUND. OF THE 319 STUDENTS WHO SPENT SOME TIME IN OCCUPATIONAL PROGRAMS, (1) MOST ENROLLED IN SUCH PROGRAMS DIRECTLY FOLLOWING HIGH SCHOOL GRADUATION, RATHER THAN AS A RESULT OF LACK OF SUCCESS IN TRANSFER PROGRAMS, (2) MOST, ESPECIALLY AMONG THE WOMEN, HAD TAKEN OCCUPATIONAL COURSES IN HIGH SCHOOL, (3) 60 PERCENT DID NOT COMPLETE THE PROGRAM, AND (4) MOST ENROLLMENTS AND COMPLETIONS WERE FROM THE MIDDLE SOCIOECONOMIC LEVEL. ALTHOUGH ONLY 14 PERCENT OF THOSE WHO FAILED TO COMPLETE TRANSFER PROGRAMS CHANGED TO OCCUPATIONAL CURRICULA, ALMOST ONE-THIRD OF MALE TERMINAL STUDENTS WITH MIDDLE SOCIOECONOMIC STATUS HAD TRIED A TRANSFER PROGRAM BEFORE ENROLLING IN AN OCCUPATIONAL PROGRAM. THE AUTHOR CONCLUDES THAT (1) LOW AND MIDDLE SOCIOECONOMIC GROUPS ARE MORE LIKELY TO COMPLETE OCCUPATIONAL PROGRAMS THAN ARE THOSE OF HIGH STATUS, (2) THE COLLEGES ARE FAILING IN AN IMPORTANT FUNCTION OF HELPING ACADEMIC PROGRAM DROPOUTS TO REASSESS THEIR GOALS RATHER THAN WITHDRAW, (3) THE COLLEGES SHOULD RECRUIT MORE HIGH SCHOOL GRADUATES DIRECTLY INTO OCCUPATIONAL PROGRAMS, AND (4) STUDENTS MUST BE BROUGHT TO A BETTER UNDERSTANDING OF THEIR APTITUDES AND LIMITATIONS, AND OF THEIR OWN RESPONSIBILITIES FOR THE DEGREE TO WHICH THEY COMMIT THEMSELVES TO A CHOSEN COURSE OF STUDY. (WO)

ERIC

ED013644

FINAL REPORT

BR- ~~Project No.~~ 6-8420

Grant No. OEG-4-6-068420-1581

PA-08

SELECTED CHARACTERISTICS, SOCIOECONOMIC STATUS, AND LEVELS OF ATTAINMENT OF STUDENTS IN PUBLIC JUNIOR COLLEGE OCCUPATION-CENTERED EDUCATION

April 30, 1967

UNIVERSITY OF CALIF.
LOS ANGELES

OCT 23 1967

CLEARINGHOUSE FOR
JUNIOR COLLEGE
INFORMATION

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY.

JC 670 891

Contents

	Page
Introduction	1
Statement of the Problem	1
Objectives of the Study	4
Institutional Settings	4
Expected Outcomes of the Study	5
Method	5
Source of Data	5
Definition of Key Terms	6
Definition of Sub-Groups	7
Treatment of Data	8
Results	10
Terminal Students Described in Terms of Selected Characteristics	10
Socioeconomic Status and Completion of a Terminal Curriculum	11
Selected Characteristics and a Shift in Program	12
Discussion	13
Terminal Students Described in Terms of Selected Characteristics	13
Socioeconomic Status and Completion of an Occupation-Centered Curriculum	15
Selected Characteristics and a Shift in Program	16
Conclusions	17
Socioeconomic Status and Completion of a Terminal Program	18

Contents

	Page
Extent of Basic Shifts in Program	20
Socioeconomic Status and Direct or Indirect Enrollment in an Occupation-Centered Curriculum	20
High School Course of Study and Direct or Indirect Enrollment in an Occupation-Centered Curriculum	21
Summary	22
Introduction	22
Terminal Students Described	24
Socioeconomic Status and Completion of a Program	24
Selected Characteristics and a Shift in Program	25
Conclusions and Recommendations	25
A Concluding Observation	27
References	28
Appendix A	A-1
Appendix B	B-1
Terminal Students Described	B-1
Socioeconomic Status and Completion of an Occupation-Centered Curriculum	B-5
Selected Characteristics and Direct or Indirect Enrollment in a Terminal Program	B-11

SELECTED CHARACTERISTICS, SOCIOECONOMIC STATUS, AND LEVELS OF ATTAINMENT OF STUDENTS IN PUBLIC JUNIOR COLLEGE OCCUPATION-CENTERED EDUCATION

Project No. 6-8420
Grant No. OEG-4-6-068420-1581

John W. Hakanson

April 30, 1967

The research reported herein was performed pursuant to a grant with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

University of California
School of Education

Berkeley, California

I. Introduction

The public junior college has moved far indeed from the original concept of an institution offering the first two years of undergraduate study to those in its community with the inclination and means to take advantage of the opportunity. This early role has expanded to include a variety of technical and vocational curricula, comprehensive adult education programs, a wide range of community cultural services, and extensive counseling and guidance operations. Where fully developed it is no longer a junior or "beginning" college but an institution responsive to many needs of the people in its locale, truly a "community" college. (1, 2, 3)

In 1917 Dean Alexis P. Lange observed that the junior college exists "...not because some will attend a university, but because the majority will presumably not do so." (7) This theme has been consistent throughout the later history of the junior college movement, and stimulated by American ideas about equal opportunity for all, has developed to the point where junior colleges are today essentially non-selective.

The concept of the junior college implicit in the phrase "community college" daily becomes more pertinent. At the present time there are more 18 year olds in the United States than at any previous time, and this number will increase in the future. (8) Concomitantly the onslaught of knowledge and technology puts education precisely between all men and their work much as has long been the case for those in the major professions. (4) A person's education increasingly determines the kind and level of occupations open to him or to which he may realistically aspire. As educational requirements for entry into more occupations rise, education assumes new significance because of its primacy in industrial man's search for a recognized and respected status in society. (10)

A. Statement of the Problem

America's traditional recognition of the value of education, a growing awareness of the rising educational threshhold of occupations, a rapidly increasing population, the non-selective nature of admissions, and the availability and economy of the public junior college have combined to produce rapid expansion in junior college enrollments. Among the more apparent results of this expansion, socioeconomic profiles of public junior college student bodies reveal a larger proportion of students from the lower socioeconomic strata of the population than is found in other kinds of institutions of higher education.

In summarizing various studies of the junior college student

Medsker observes that "in general, the distribution of occupations of the fathers of junior college students appeared to approximate quite closely the distribution for the fathers of all high school graduates." (6) Such a distribution differs substantially from that found in higher education as a whole. (13)

That a relationship exists between low socioeconomic status and low levels of educational attainment was established by sociologists as early as 1944. (5) This relationship has been reaffirmed many times since, but the criterion of educational attainment has been phrased in terms of achievement in academically oriented education. The first major purpose of this study is to determine whether the relationship between low socioeconomic status and low educational attainment holds when the criterion of achievement is completion of a two year occupation-centered curriculum in a public junior college.

Assumption of a screening function by the public junior college occupies an important position among higher education's responses to rapidly growing enrollments. Adopting the posture of a sorting station, the junior college seeks to provide a locus where youth may test their aptitudes and abilities as part of the long term process of occupational choice. Here, it is thought, young people whose potential for abstract learning is sufficient to carry them into the long and abstruse curricula of the baccalaureate college will have an opportunity to test and affirm this. Those whose interests and aptitudes prove to be unsuited for these kinds of programs may be helped to find their way into less intellectually demanding curricula where the goals are more immediate and short range.

The public junior college holds up to its own view and that of the people an image of itself as a place where this shifting can and does occur, where young men and women do experience changes in occupational and educational goals and are able to take practical steps to implement these changed goals. But the extent to which this process of shifting and changing among curricula of different kinds in the public junior college actually occurs is not well understood, nor is it known whether and how students who do make such changes might differ from those who do not. A second major purpose of this research is to examine into the extent of such shifting and to compare students who enroll directly from high school in two year occupation-centered programs with those who first enroll in college credit transfer programs and then later change to two year occupation-centered curricula.

A third purpose of this study, and one that of necessity must precede execution of the other major objectives, is to describe students in two year occupation-centered curricula in

public junior colleges in terms of selected variables--socio-economic status, scholastic aptitude, course of study pursued in high school, and sex.

B. Objectives of the Study

This research is concerned with an examination of people in two year occupation-centered curricula in public junior colleges. The objectives of the study are four, the first of which is to describe and compare, in terms of socioeconomic status, scholastic aptitude, course of study followed in high school, and sex, those who complete a two year occupation-centered curriculum with those who enroll in but do not complete such a curriculum. The second objective is to describe and compare those who enroll in an occupation-centered curriculum directly from high school as a first choice with those who enroll as a second choice after having tried an academic or transfer curriculum. Objective number three is to study variations in the extent of shifting from a college transfer curriculum to an occupation-centered curriculum according to levels of socioeconomic status, while the fourth objective is to examine the relationship between the socioeconomic status of public junior college students in occupation-centered curricula and whether they complete such curricula or not.

These objectives will be approached through examination and analysis of data relating to some 1,000 individuals who enrolled in six public junior colleges in the fall of 1959 for their first full time post-secondary educational experience. Approximately one third (319) of these people spent some time enrolling in two year occupation-centered curricula during the period 1959-1963 covered by the study. This group is the focus of attention in this research.

C. Institutional Settings

The six public junior colleges in which students in the basic group enrolled in the fall of 1959 reflect in their program offerings the various historical and community influences common to institutions in similar settings. Four of these junior colleges are located in the midwestern states of Missouri, Kansas, Illinois and Michigan. The other two schools are in California. These institutions may be thought of as broadly representative of public junior colleges in California and the midwest. However, no assertion is made that they actually represent anything other than themselves, although both community and student characteristics indicate that they are not atypical. Enrollments of the four midwest colleges in 1959-60 were 107, 599, 681 and 494 full time students in day programs, while the California colleges enrolled 1747 and 5264 people in the same year. (11)

D. Expected Outcomes of the Study

The expected outcomes of this study are:

a. The study will constitute an addition to information which now exists in limited form and amount about certain characteristics and attributes of students enrolled in various two year occupation-centered curricula in public junior colleges.

b. In the examination of relationships between socio-economic status and completion or noncompletion of a two year occupation-centered curriculum in a public junior college, the direction of possible refinements in the general theory that a socially restricted environment bears directly on low educational attainment may be indicated. Such indications may point the way to further research relating success in certain kinds of education to students from different social environments. This will be of special significance to public junior colleges and to those interested in vocational education as the educational threshold of occupation continues to rise and as more youth from lower socioeconomic level homes seek entry into higher education.

c. In the examination of relationships between socio-economic status and enrolling in a two year occupation-centered curriculum directly from high school or after having first tried a college credit transfer curriculum, and in the comparison of students who make such a change with those who do not, indications may develop as to the effectiveness with which the public junior college actually functions in its sorting station role.

The reluctance of junior college students to enroll in any curriculum they do not consider to be a "transfer program", and their proclivity to withdraw without having completed any established program have been well documented. (2) Although his concern is not limited to junior college students, Venn infers some of the implications of this when he states, "at the present time, only one student in ten leaving the educational system without a bachelor's degree has some specific occupational preparation." (4) Information of the kind developed and documented in this study is at least one of the prerequisites of reasoned change.

II. Method

A. Source of Data

Data from the High School Graduate Study conducted by Medsker and Trent are used in this research. (14) The High School Graduate Study was designed to survey the general intellectual, psychological and social characteristics of some 10,000 1959 high school graduates, and to examine factors influencing attendance

and persistence in college. These students were located in 14 communities in the midwest and 2 in California. Fifteen of these communities were within a population range of approximately 25,000 to 100,000. The sixteenth community was San Francisco, California, a city of more than 700,000 population.

One of the characteristics used in the final selection of communities was the type of higher education available there. Six of the 16 communities have public junior colleges and these are the ones on which the present study is based.

Data concerning the students' personal and social characteristics and educational background were collected by questionnaire in 1959 while the students were still in high school. Virtually every one of the graduating seniors in the 16 communities were included in this survey. Information on the questionnaires has been coded and is available on both IBM cards and tapes in the Center for the Study of Higher Education, University of California.

People in the original survey group have been followed to the extent of obtaining records of performance and retention in post-secondary education as well as of employment. Transcripts are available for that portion of the 10,000 who attended any post-secondary institution of learning listed in the Education Directory published by the U. S. Office of Education.

B. Definition of Key Terms

1. "Two year occupation-centered curricula" are programs two years or four semesters in length whose objective is the preparation of people for definite occupations or categories of occupations. In this study these curricula are also called "terminal programs."

2. "Completion of a two year occupation-centered curriculum" means that the student has (a) received an AA degree or Certificate of Completion in such a curriculum, or (b) earned 59 or more semester hours of credit, a substantial portion of which were part of a two year occupation-centered curriculum. The intent is to include among "completers" those who substantially completed a program without meeting all of the degree requirements.

3. Socioeconomic status was determined by father's occupation. Occupations were broadly categorized at three levels (High, Middle and Low) implying differences in education, skill and responsibility. Those occupational groups whose classifications are not self-descriptive are delimited below.

High status occupations are: Professional I, Professional II, and managers, executives and government officials. Professional I

occupations are those generally requiring formal education above the baccalaureate degree, and/or a high degree of professional responsibility, and/or recognized certification. Professional II occupations are those not usually requiring more than a baccalaureate degree but which involve some degree of professional skill, understanding and responsibility.

Middle status occupations are: semi-professional, small businessman, sales and clerical, and skilled worker, foreman and farm manager. Semi-professional occupations are those not demanding four years of college training or its equivalent, but which do call for a specialized skill, talent or understanding. The small businessman classification includes owners, partners and other officials of all types of small businesses.

Low status occupations are: semi-skilled and unskilled worker, and farm laborer or tenant.

4. Scholastic aptitude was measured by direct or converted scores on the Scholastic Aptitude Test (SCAT). Appendix A presents materials on the method used in converting scores on other tests to SCAT equivalents.

In this study means and ranges were computed from scores earned by students in the basic group. But the categorization of students into High, Medium and Low categories was done on the original study. Specifically this means that a person in the High scholastic aptitude category of this study is among the upper three deciles of the entire 10,000 students, not just among the 1,000 who comprise the basic group for this study. The Medium category consists of the four middle deciles of scores and the Low category is made up of the three lower deciles.

5. Three basic kinds of high school programs are used in classifying students on this variable. They are: (1) Occupational, including the vocationally oriented programs in agriculture, industrial arts, business, commercial, and secretarial, (2) General, and (3) College Preparatory.

C. Definition of Sub-Groups

1. Direct Transfer A Students. The first distinction to be made among members of the basic study group was whether they had initially enrolled in a curriculum intended for those who wished to transfer to a four year college, or in a two year curriculum designed to prepare them for a vocation. Students in the former group were designated as "Direct Transfer A" students, signifying enrollment in one or the other of these two types of

curricula directly from secondary school.

Direct Transfer A students were divided into four categories according to the different experiences they had had in higher education between the fall of 1959 and June, 1963. These are:

a. Those who had received a baccalaureate degree, the "BA" sub-group.

b. Those who were still enrolled in a baccalaureate program, the "Transfer Continuing Education" sub-group (TCE).

c. Those who were no longer in college, the "Transfer Dropouts" (TD).

d. Those who had changed from a transfer to a terminal curriculum, the "Indirect Terminal" sub-group (IT).

2. Direct Terminal A Students. Sub-group classification revealed a small number of students who had initially enrolled in two year occupation-centered curricula but who subsequently changed to transfer curricula with the apparent intention of entering into baccalaureate programs. These students were identified as the "Indirect Transfer" (ITR) sub-group. They were removed from discussion of the Direct Terminal A students since they were deemed to be different from those students who failed to complete a terminal program because they simply left college.

Removal of the Indirect Transfer sub-group from the Direct Terminal A students left those who had enrolled directly in terminal programs from high school and who had not changed to a transfer program. These students were designated as the "Direct Terminal" (DT) sub-group.

3. Completers and Noncompleters. Subsequent to identification of the Direct Terminal students a division of this sub-group was made according to whether or not they had completed two year occupation-centered curricula by June, 1963, four school years after they had first enrolled in public junior colleges. This same division was made of students in the Indirect Terminal sub-group. Direct and Indirect Terminals were then combined and the two categories, "Terminal Completers," and "Terminal Non-completers" were produced.

D. Treatment of Data

1. Description. The first objective of this study is to describe students in two year occupation-centered curricula in public junior colleges in terms of certain characteristics and attributes. This descriptive process may be framed in terms of questions to be answered:

a. What proportion of these students originate from each of several socioeconomic levels?

b. What is the Mean and Range of their scholastic

aptitude scores?

c. What proportion of these students fall into each of several levels of scholastic aptitude?

d. What is the distribution of these students among different courses of study followed in high school?

e. How do men and women differ according to these variables?

f. How do students in each of a number of major categories of two year occupation-centered curricula differ in terms of socioeconomic status, scholastic aptitude, course of study in high school, and sex?

g. To what extent do students in two year occupation-centered curricula in public junior colleges differ from graduating high school seniors in terms of these variables?

h. How do those who complete a two year occupation-centered curricula differ from those who start but do not finish, in terms of socioeconomic status, scholastic aptitude, course of study followed in high school, and sex?

i. How do those who enter a two year occupation-centered curriculum directly from high school as a first choice differ from those who enter as a second choice, in terms of the above variables?

2. Analysis. Description is followed by examination of the relationship between socioeconomic status and, (1) completion or noncompletion of a two year occupation-centered curriculum, and (2) between socioeconomic status and enrolling in such a curriculum directly from high school or as a second choice after having first tried a college credit transfer curriculum.

After an IBM card with appropriate data recorded on it had been developed for each student these cards were separated into the various sub-groupings by use of an IBM sorter. Frequencies and percentages of single column entries were obtained using an IBM 7094 computer with a program provided by the Data Processing Section of the Center for the Study of Higher Education, University of California, Berkeley. All computer work was carried out by Center personnel. Significance tests were figured on an electric desk calculator.

The basic method of analysis was to make a series of comparisons of groups of students, each one in terms of one of a number of selected variables, testing each comparison for significance. Pearson's Chi square is the test statistic used. For all tests the level of significance was set at .05. Analysis took the form of testing a specific variation of the general null hypothesis that no significant differences existed between the groups being compared.

If in a specific comparison the null hypothesis could not be rejected, that variable was held not to have been influential among whatever processes had produced the two groups being compared. If the null hypothesis could be rejected the inference was that that specific variable distinguished between the two groups.

Further analysis consisted of percentage comparisons of sub-groups in an attempt to discover different relationships between variables. Where the data permitted, cross-classification of three variables was also carried out.

III. Results

A. Terminal Students Described in Terms of Selected Characteristics

Terminal students are contrasted with secondary school seniors surveyed in the High School Graduate Study.

Of the 319 terminal students, 52 per cent were women, 48 per cent, men. This ratio is identical with that of graduating seniors, whose proportions were also 52 per cent women and 48 per cent men.

Mean SCAT score of terminal students was 289, with a range of 259-310. For women the mean SCAT score was 290, range 268-320. For men the comparable figures were: mean, 288; range, 259-310. Mean SCAT score for graduating seniors was 293, while the range was 252-330.

Terminal students were found to be very largely people from middle and low socioeconomic status homes with medium and low academic capacities as measured by a scholastic aptitude test. Two out of three terminal students fall into the middle socioeconomic status category, and an additional 22 per cent into the low category. Two out of five (42%) terminal students earned SCAT scores in the medium category of scholastic aptitude test results; and almost as many (36%) fell into the low category.

Just over one in ten (11%) of terminal students in this study came to the public junior colleges from high socioeconomic status homes. Slightly more than one in five (22%) terminal students earned scores in the high SCAT score category.

Terminal students followed occupational courses of study in high school in greater proportion than did their peers. About one-third of terminal students followed college preparatory programs in high school, but men were more inclined to do so than women even though a larger proportion of men than of women earned low scores on the test of scholastic aptitude.

A larger proportion of women than of men terminal students were found in the middle socioeconomic status and medium SCAT score categories. Men and women were represented almost equally in the high socioeconomic and high SCAT score brackets.

The Secretarial Science and Office Practice, and Medical curricula enrollments were composed very largely of women from middle and low socioeconomic status homes, more than 90 per cent of these enrollees falling into the two categories. These same two curricular groups included substantial proportions of students in the medium and high SCAT score categories.

The curricular group composed almost entirely of men included a larger proportion of low socioeconomic status students than did those dominated by women enrollees. This all-male group, Drafting, Engineering, Machine and Electronic Trades, was one of two with the smallest proportion of people in the middle socioeconomic status category; and it also had the largest proportion in the low socioeconomic status bracket of all the sub-groups. This curricular category shows the most nearly equal distribution among levels of scholastic aptitude. It had the second largest proportion in the mid-range of SCAT scores, 34 per cent; and was one of two groups showing 40 per cent in the low SCAT score bracket.

B. Socioeconomic Status and Completion of a Terminal Curriculum

As the socioeconomic status of women terminal students was higher there was substantially less liklihood that they would complete a two year occupation-centered curriculum. No such definite relationship was found in the case of men. Although a larger percentage of middle than of either high or low socioeconomic status men completed a terminal program, differences in percentages completing were not great.

Analysis of the data when cross-classified revealed a significant difference in the socioeconomic status distribution of completers and noncompleters within the medium scholastic aptitude category.

Of the 42 in each 100 of all terminal program enrollees who earned scholastic aptitude scores in the middle four deciles, the largest percentage of completers (41%) was found in the middle socioeconomic status group. The next largest percentage of completers (23%) was in the low socioeconomic status category, while the smallest percentage of completers (17%) was among those from high socioeconomic status backgrounds.

This finding is a departure from the more usual pattern

in which few important differences are found in the percentage of college enrollees from each socioeconomic level who complete a program. (6,9)

Socioeconomic status appeared to have little relationship to completion of a terminal program when cross-classified with high school course of study, except that high socioeconomic status students who had taken college preparatory classes in secondary school were less likely to complete a terminal program than were their middle and low socioeconomic status peers.

C. Selected Characteristics and A Shift in Program

Only a small proportion (14%) of the individuals in the basic study group who enrolled in college credit transfer programs directly from high school, but who failed to continue in such a program, had by four years later made a shift in program to an occupation-centered curriculum.

The great majority (86%) of people in the basic study group who either chose not to or could not succeed in college credit transfer curricula did not change to terminal programs. They withdrew.

Most of the students (82%) in occupation-centered curricula had enrolled in such programs directly from high school.

1. Socioeconomic Status. Socioeconomic status failed to differentiate between direct and indirect terminal students. It also failed to differentiate between male direct and indirect terminal students, and between female direct and indirect terminal students. No statistically significant differences were found in terminal students when these groupings were compared.

The data revealed indications that as the socioeconomic status of women terminal students was lower they were more likely to have enrolled in occupation-centered curricula directly from high school.

Among men terminal students the largest percentage of direct terminal enrollees was found among those with high socio-economic status, and the next largest percentage among those with low socioeconomic status. The smallest percentage of men direct terminal students was found among those in the middle socioeconomic status category. Almost one in three (32%) of male terminal students with middle socioeconomic status had tried a college credit transfer program before enrolling in an occupation-oriented curriculum.

2. Scholastic Aptitude. This variable also failed to differentiate between terminal students who enrolled in occupation-centered curricula directly from high school and those who entered such curricula after having tried college credit transfer programs.

Because the number of cases is so small no definite conclusions may be stated here either. The data did provide indications that as the scholastic aptitude of male terminal students was lower it was more likely that they had enrolled in occupation-centered programs directly from high school. Almost no relationship between scholastic aptitude and direct or indirect enrollment in occupation-centered curricula emerged for women.

3. High School Course of Study. A statistically significant difference was found in the distributions of direct and indirect terminal students among courses of study followed in high school. When the sub-groups were divided by sex, a statistically significant difference was found between female direct and indirect terminal students. No statistically significant difference was found in the distributions of male direct and indirect terminal students among courses of study followed in high school.

The data provided indications of a strong relationship between following an occupational course in secondary school and enrolling in a terminal program directly from high school. This relationship was especially marked for women.

Men enrolled in terminal programs who had taken college preparatory courses in high school showed a stronger tendency to enroll in college credit transfer programs directly from high school than did women who had followed similar courses of study in high school.

4. Detailed data supporting these results are presented in tabular form in Appendix B.

IV. Discussion

A. Terminal Students Described in Terms of Selected Characteristics

1. Socioeconomic Status. Terminal students are more "middle class" in their origins than are graduating seniors, 67 per cent as compared to 62 per cent. The proportion of low socioeconomic status individuals is about the same (22% - 23%) among terminal students as among graduating seniors, while the proportion of high socioeconomic people is slightly higher among graduating seniors than among terminal students (15% - 11%).

Almost 7 in 10 of women terminal students were from middle socioeconomic status homes. This "over representation" of middle socioeconomic status women resulted in large part from enrollments in Secretarial Science and Office Practice programs.

Lower socioeconomic status men were also over represented in terminal curricula. Drafting, Engineering, Machine, and Electronic Trades programs included the largest proportion of low socioeconomic status men.

2. Scholastic Aptitude. More than one out of three terminal students had low scholastic aptitude compared to approximately one out of four graduating high school seniors. Approximately one out of three graduating seniors had high scholastic aptitude, compared to just under one out of five (22%) terminal students.

There were substantially more men than women terminal students with low scholastic aptitude (41% - 31%). Almost half (47%) of women terminal students had medium scholastic aptitude, compared to less than three-fifths (37%) of men terminal students.

Low scholastic aptitude men tended to enroll in Drafting, Engineering, Machine, and Electronic Trades curricula, while medium scholastic aptitude women tended to enroll in Secretarial Science and Office Practice, and Medical programs.

3. High School Course of Study. A much larger proportion of terminal students than of graduating high school seniors (42% - 29%) had followed occupational courses of study in high school. Only one-third of the terminal students had enrolled in college preparatory courses in high school, compared to two-fifths of the graduating seniors. These data would appear to indicate that students in terminal programs in public junior colleges tended to be occupationally oriented during their age period 14 to 18 years while attending high school.

Women terminal students were less inclined to enroll in general or college preparatory programs in high school than were men. Almost three-fifths of the men took courses in one or the other of these two categories, while slightly more than two-fifths of the women had enrolled in such programs.

Conversely, men terminal students did not follow occupational courses in high school in anything like the proportion of women terminal students who did so. Only one-third of the men had been in a high school occupational course, while just over half of the women had enrolled in such programs.

It may appear that among those who enrolled in two year occupation-centered curricula, men had been more academically oriented in high school while women had been more vocationally oriented. However, it may well be that women while in high school have more opportunities to enroll in approriate occupational courses than do men, specifically the many commercial and business courses common in secondary schools. The large proportion of men who followed college preparatory courses in high school perhaps stems as much from limited occupational offerings as from any inclination of young men to pursue academic courses during their secondary school years.

Approximately three-fifths of the enrollees in Secretarial Science and Office Practice, and Business curricula, most of whom were women, had followed occupational courses of study in high school. Forty four per cent of the enrollees in Drafting, Engineering, Machine, and Electronic Trades, all men, had taken college preparatory courses of study in high school.

B. Socioeconomic Status and Completion of an Occupation-Centered Curriculum

Analysis of data in this part of the study occurred in two separate phases. Comparisons of completers and noncompleters were carried out on each of the basic variables. Following this, cross-classification on three variables was done. This enabled comparisons to be made of the socioeconomic status distribution of completers and noncompleters with similar scholastic aptitude scores, and with like experiences in high school.

When cross-classification was carried out, there proved to be too few cases in the high socioeconomic status-high scholastic aptitude category to allow full statistical analysis. This was also the case with the high socioeconomic status-general high school course of study category. Further cross-classification on the fourth variable, sex, was not feasible.

An attempt was made in the analysis of data to discover relationships between variables by presenting information in percentage form. Unfortunately, the numbers of cases were too small in many instances to allow conclusive statements of relationships. It would be more nearly valid to think of these data as revealing indications of probable relationships.

Discussion in Section A above indicated that terminal students included a smaller proportion of high socioeconomic status individuals than was present among graduating high school seniors. Analysis of data in the present section reveals that a

smaller proportion of high than of middle or low socioeconomic status terminal students completed a two year occupation-centered program.

It follows that a low socioeconomic status high school graduate will have a better chance of enrolling in and completing a two-year occupation-centered curriculum than will a high socio-economic status high school graduate, provided that they both have medium scholastic aptitude.

However, these data emphasize again the predominance of the middle socioeconomic status student in occupation-centered curricula in the public junior college. Not only are two out of three terminal enrollees from middle socioeconomic status homes, but at every level of scholastic aptitude the largest proportion of completers is found among those students who came to the junior college with middle socioeconomic status backgrounds.

The finding that, among medium scholastic aptitude terminal students, those with middle socioeconomic status completed occupation-centered curricula in substantially greater proportion than did either high or low socioeconomic status students is an important one. Of the individuals in this study, the medium scholastic aptitude group comprises 40 per cent of graduating seniors and 42 per cent of terminal students. The middle socioeconomic status group comprises 62 per cent of graduating seniors, and 67 per cent of terminal students. A very substantial portion of all youth will possess both these characteristics.

C. Selected Characteristics and a Shift in Program

An unexpected finding of the study was that of 427 students in the basic study group who either could not or chose not to succeed in a college credit transfer curriculum, only one out of seven changed to occupation-centered programs. The other six withdrew from further participation in post-secondary education.

It had seemed a plausible assumption that junior college students who experienced difficulties in college credit transfer programs, or who found academically oriented curricula not to their liking would cast about for a way to continue their education. Finding readily available occupation-centered curricula less abstract in content and of shorter duration, significant numbers of these students might change or shift to such programs. This was not the case for the students in this research.

The small number of students who could be identified as having shifted from a college credit transfer to an occupation-

centered curriculum limited some of the analyses originally planned. There were too few such individuals to permit meaningful cross-classification between variables.

1. Socioeconomic Status. The findings of this study with regard to the relationship between socioeconomic status and direct or indirect enrollment in a terminal program could best be described as inconclusive. No significant difference was found between the socioeconomic status distribution of those who enrolled in occupation-centered curricula directly from high school and those who entered into such curricula after having tried a college credit transfer program. This was also the case when comparisons were made by sex groups.

The only portion of these data from which even tentative observations might justifiably be drawn is the distinction between men and women terminal students with middle socioeconomic status. There is a much stronger tendency for men than for women of this category to enroll in college credit transfer programs directly from high school. One of three male terminal students had followed this route and so came to be identified as indirect terminals. This was true of only one of seven women terminal students.

The percentage of students enrolled in occupation-centered curricula who are categorized as indirect terminals is small in most instances. (Tables 31, 32, 33, Appendix B)

Young men from middle socioeconomic status families are more likely to have considerable motivation to succeed at some level of post-secondary education. They are also likely to have been exposed to numerous occupational role models and other sources of information. Vocational objectives for which the prerequisite is two years of occupation-centered education would be acceptable to more of them.

The small percentage of low socioeconomic status students in the indirect terminal group may result from the same handicaps which have often been cited as explanation for the poor performance of this kind of student in post-secondary education generally. Typically, neither his family nor his peers are deeply concerned about middle class values emphasizing school achievement. Too, a low socioeconomic status individual is more likely to show greater confusion and less clear knowledge about himself and what he wants to do than will his more affluent colleagues. His commitment to education will be more tentative.

High socioeconomic status students, it seems reasonable to assume, would have greater difficulty in adjusting occupational

goals downwards from the socioeconomic level as their families. This may help explain the relatively small number of such people in both the direct and indirect terminal groups.

2. Scholastic Aptitude. Although no statistically significant difference was found in the scholastic aptitude distribution of direct terminal and indirect terminal students, the data did reveal that as the scholastic aptitude of terminal students was higher they were more likely to have tried a college credit transfer program before enrolling in an occupation-centered curriculum.

However, a considerable difference in this relationship was found between men and women terminal students. As the scholastic aptitude of men in terminal programs was higher they were much more likely to have enrolled in college credit transfer programs before entering into occupation-centered curricula. Almost no relationship of this kind was found for women terminal students. The percentage of indirect terminal women was smaller at all levels of scholastic aptitude than even the smallest percentage among men.

Men and women terminal students with low scholastic aptitude were more nearly alike with respect to whether or not they enrolled in occupation-centered curricula directly from high school than were men with low and men with high scholastic aptitude.

3. High School Course of Study. This variable did show a statistically significant difference between direct terminal and indirect terminal students.

Students in occupation-centered curricula who followed occupational courses of study in high school were much more likely to have enrolled in terminal programs directly from high school than were those who took general courses of study in high school, and still more likely to have done so than were those who had engaged themselves in college preparatory courses. This tendency was substantially stronger for women than it was for men.

V. Conclusions

A. Socioeconomic Status and Completion of a Terminal Program

Medium scholastic aptitude terminal program enrollees with middle socioeconomic status are much more likely to complete an occupation-centered curriculum than are those with either high or low socioeconomic status. A low socioeconomic status high school graduate will be more likely to enroll in and complete a terminal program than will a high socioeconomic status high

school graduate, assuming they both possess medium scholastic aptitude.

The evidence of this research infers that low and, more especially, middle socioeconomic status students are more likely to complete occupation-centered curricula than are high socioeconomic status students. This finding represents a refinement of the general relationship that the lower the socioeconomic status of the individual the more likely it is that his level of educational attainment will also be low.

1. Recommendations for Further Research. There is need to verify and broaden the finding of this research that a relationship does exist between socioeconomic status and completion of an occupation-centered curriculum which is different than that between socioeconomic status and level of attainment in an academic curriculum.

Major research should be conducted along the lines of identifying those elements of the construct "socioeconomic status" that appear to have a definite relationship with whether a student completes a given kind of program or not. The basic design concepts of the present study could perhaps be adapted to such purposes.

A second objective of further research would be to determine if, as this study implies, different relationships exist between socioeconomic status and completion of an occupation-centered curriculum for students above, or below, a given level of scholastic aptitude. Assuming the validity of this concept, this level needs to be more definitely delimited.

If research such as that suggested above proves to be fruitful, important reasons exist for extending the scope of study into the high school and perhaps into the elementary schools as well. Identification of measurable factors of this kind which exercise influence upon the level of achievement in education would be useful for at least two reasons.

First, such factors might serve as predictors, thus helping to lessen the almost total reliance upon grades and scholastic aptitude test scores practiced by most educators. Second, as the relationships between socioeconomic status and achievement in different kinds of educational programs became better understood, such knowledge could give direction to a reasoned restructuring of education at several levels, with greater emphasis on occupation-centered education.

B. Extent of Basic Shifts in Program

Only a small proportion (one in seven) of those who withdrew from a college credit transfer program subsequently enrolled in an occupation-centered curriculum during the four year period covered by the study.

This finding, aside from the obvious questions it raises about the effectiveness of junior college student personnel programs, points to potentially serious trouble for the junior college movement.

First, it is apparent that the junior college may well fail to meet society's need for really large numbers of technicians unless it can (1) entice more high school graduates directly into occupation-centered curricula, or (2) succeed in getting much larger proportions of potential academic program dropouts to switch to terminal programs rather than withdraw.

Second, unless public junior college enrollees can be brought to a better understanding of their own limitations and aptitudes, and their own responsibility for the degree to which they commit themselves to success in their chosen courses of study, they and their parents may hold the college rather than themselves responsible for failure.

Such a development would pose grave problems for an institution which should be an integral part of its community, and which depends on local sources of revenue for significant proportions of its funds.

As Medsker has pointed out, there are no "bench marks" against which the number of junior college students who ought to transfer to four year colleges can be measured, and there are numerous pressures external to the junior college which tend to keep students from enrolling in occupation-oriented curricula. (2)

However, two of the important objectives of the public junior college are, (1) to provide its students with a high level salable skill, or (2) to send them on, equipped for successful entry into and completion of more advanced levels of education. It would seem that an institution which fails in these objectives with something more than half of its students may face serious problems.

C. Socioeconomic Status and Direct or Indirect Enrollment in an Occupation-Centered Curriculum

There is a much stronger tendency for male than for

female terminal students with middle socioeconomic status to have enrolled in college credit transfer programs before enrolling in occupation-centered curricula.

This finding, combined with the observation that medium scholastic aptitude terminal students with middle socioeconomic status are more likely to complete a program than are those with high or low socioeconomic status leads to the following suggestion.

In an economy of scarce resources, perhaps the junior college counseling effort should focus most sharply on male students with medium scholastic aptitude and middle socioeconomic status.

Individuals with this set of characteristics make up a substantial portion of all public junior college students. Among those students who withdraw from academic programs, this group would appear to carry the strongest potential to (1) shift to occupation-oriented curricula, and (2) complete such a program once enrolled in it.

A concentration of effort such as this may be philosophically unsound in the broad sense that those who perhaps need the most help might be neglected even more than they presently are. But this is a value judgment. It is only suggested here that the evidence of this study indicates that such a concentration of effort would probably be a more effective use of limited counseling resources.

1. Recommendations for Further Research. If the concept of direct or indirect enrollment in a terminal program as a manifestation of the process of occupational choice is valid, examination of the relationship between socioeconomic status and such direct or indirect enrollment would seem to be important enough to justify further research of a kind similar to the present study.

It is suggested that there are numerous variables making up the construct "socioeconomic status" which could be cross-classified with variables not a part of that construct. Such research might succeed in identifying measurable factors in the socioeconomic background of individuals showing consistent relationships with given manifestations of the process of occupational choice.

D. High School Course of Study and Direct or Indirect Enrollment in an Occupation-Centered Curriculum

Among those enrolled in terminal programs, greater proportions of men than of women had followed college preparatory courses of study in high school, even though men tended to earn

lower scores on scholastic aptitude tests. Men who had followed college preparatory courses of study in high school provided the largest percentage of completers of terminal programs when completers were classified by high school course of study. However, a substantial proportion of men who had followed occupational courses of study in high school also completed occupation-centered curricula in the public junior college.

Men with middle socioeconomic status enrolled in terminal programs provided the largest percentage of indirect terminal students, and the largest percentage of completers of occupation-centered curricula.

A rather strong relationship was shown between following an occupational course of study in high school and enrolling directly in a terminal program in the junior college.

The inference may be drawn that if more occupational courses were made available, and if young men in high school were to receive pertinent educational guidance, greater numbers of them would probably follow such courses of study in high school. And subsequently, more of them would probably enroll directly in and complete occupation-centered curricula in the public junior college.

VI. Summary

A. Introduction

The subjects of this study are students in two year occupation-centered curricula in public junior colleges. Data employed are those relating to 1011 students (the basic study group) in six junior colleges whose first full-time enrollment in post-secondary education had been in the fall of 1959. The subsequent educational careers of these students were followed for a period of four years. These students were part of the 10,000 high school graduating seniors on whom data was gathered by questionnaire for the High School Graduate Study conducted by Medsker and Trent. (14)

Of several objectives of the research, the first in sequence was to describe students in public junior college occupation-centered curricula (hereafter referred to as "terminal students") in terms of selected characteristics - socioeconomic status, scholastic aptitude, course of study followed in high school, and sex.

The second objective involved an examination of the relationship between socioeconomic status and enrolling in an occupation-centered curriculum directly from high school, or indirectly after having tried a college credit transfer curriculum for at least one semester. Pursuit of this objective entailed examination of

relationships between the other selected characteristics and direct or indirect enrollment in occupation-centered programs as well. Inquiry was also necessary into the number of students who actually shifted from an academic college credit transfer program to an occupation-centered curriculum.

Perhaps the most basic concern prompting the study was whether the relationship between socioeconomic status and completion of an occupation-centered curriculum might be different than the well established relationship between socioeconomic status and level of attainment or completion of a program of academically oriented education.

Research has established that as the socioeconomic status of the individual is lower it is likely that his educational attainments will also be low. Does this general relationship hold if the criterion of attainment is completion of an occupation-centered curriculum?

Data pertinent to the objectives and methods of the study were taken from information gathered for the High School Graduate Study conducted by Medsker and Trent. (14) Detailed study of the transcripts of the basic study group resulted in the categorization of students into a number of sub-groups according to varying educational experiences.

The selected characteristics on which comparisons were to be made were divided into the following categories:

a. High, Middle and Low socioeconomic status according to fathers' occupation.

b. High, Medium and Low scholastic aptitude according to placement of test scores among the entire 10,000 graduating seniors in the High School Graduate Study. High and Low were those in the upper or lower three deciles of scores, Medium was those scores in the middle four deciles.

c. Courses of study in high school were classified into Occupational, General, and College Preparatory.

Analysis involved two procedures. Sub-groups were compared on each of the selected characteristics, and whenever the number of cases permitted, cross-classification on three variables was carried out. Each of these sub-group comparisons constituted a test of a specific form of the general null hypothesis that no differences existed between the groups being compared. Pearsons' Chi square was the test statistic used. For all tests the level of significance was set at .05.

For each comparison, the data were also converted into

percentage form in order to clarify the direction and relative strength of possible relationships.

The data are reported in detail in tabular form in Appendix B.

B. Terminal Students Described

A total of 319 individuals from the basic study group had spent some time enrolled in occupation-centered curricula during the four year period covered by the research. The distribution of these students among categories of socioeconomic status, scholastic aptitude, high school course of study, and sex may be summarized in a few paragraphs.

Terminal students were largely people from middle and low socioeconomic status homes, approximately 90 per cent falling intc these two categories. Middle socioeconomic status women and low socioeconomic status men were "over-represented" among terminal students as compared to their peers among graduating high school seniors.

Students in occupation-centered curricula were also largely people who had earned medium and low scholastic aptitude test scores in the medium range, and 36 per cent were found to be in the low range. Medium scholastic aptitude women and low scholastic aptitude men were over-represented as compared with their peers.

Terminal students had followed occupational courses of study in secondary school in greater proportion than had their high school colleagues, but this tendency was much stronger for women than for men.

C. Socioeconomic Status and Completion of a Program

Of terminal students, 40 per cent completed an occupation-centered curriculum, and 60 per cent did not complete.

As the socioeconomic status of women terminal students was higher there was substantially less liklihood that they would complete an occupation-centered curriculum. No such definite relationship was found for men. Differences in the percentage of each socioeconomic status category who completed a terminal program were not great.

Analysis revealed a significant difference in the socio-economic status distribution of completers and noncompleters within the medium scholastic aptitude category. Those students with middle

socioeconomic status were much more likely to complete a program than were those with either high or low socioeconomic status.

D. Selected Characteristics and a Shift in Program

Only one out of seven of those who dropped out of a college credit transfer program shifted to an occupation-centered curriculum. The small number of these indirect terminals limited analysis in parts of the study.

1. Socioeconomic Status. The findings of the study with regard to the relationship between socioeconomic status and direct or indirect enrollment in a terminal program could best be described as inconclusive. No statistically significant differences were found in any of the sub-group comparisons made.

2. Scholastic Aptitude. This variable also failed to differentiate between terminal students who enrolled in occupation-centered curricula directly from high school or those who enrolled indirectly after having tried a college credit transfer program.

3. High School Course of Study. The data revealed indications of a strong relationship between following an occupational course in secondary school and enrolling in a terminal program directly from high school. This relationship was especially marked for women.

E. Conclusions and Recommendations

1. Socioeconomic Status and Completion of a Terminal Program. The evidence of this research infers that low and, more especially middle socioeconomic status students are more likely to enroll in and complete occupation-centered curricula than are high socioeconomic status students.

Major research should be conducted in an attempt to identify elements of the construct "socioeconomic status" that appear to have a definite relationship with whether a student completes a given kind of educational program or not. Research should also be carried out to determine if, as this study implies, different relationships exist between socioeconomic status and completion of an occupation-centered curriculum for students above, or below, a given level of scholastic aptitude.

Should research such as that suggested above prove fruitful, important reasons exist for extending the scope of study into other levels and segemnts of education. Identification of measureable factors which exercise influence upon the level of achievement

in education would be useful for at least two reasons.

First, such factors might serve as predictors, thus helping to lessen the almost total reliance upon grades and scholastic aptitude test scores practiced by most educators. Second, as the relationships between socioeconomic status and achievement in different kinds of educational programs became better understood, such knowledge could give direction to a reasoned restructuring of education at several levels, with greater emphasis on occupation-centered education.

2. Extent of Basic Shifts in Program. Only 14 per cent of those who withdrew from a college credit transfer program subsequently enrolled in an occupation-centered curriculum during the four year period covered by the study. Slightly more than one-fourth of the basic study group enrolled directly from high school in occupation-centered curricula.

It is apparent that the junior college may well fail to meet societys' need for really large numbers of technicians unless it can (1) entice more high school graduates directly into occupation-centered curricula, or (2) succeed in getting much larger proportions of academic program dropouts to switch to terminal programs rather than withdraw.

Further, unless public junior college students can be brought to a better understanding of their own limitations and aptitudes, and their own responsibility for the extent to which they commit themselves to success in their chosen courses of study, they and their parents may hold the college rather than themselves responsible for failure. Such a development could pose grave problems for an institution which should be an integral part of its community, and which depends on local sources of revenue for significant portions of its funds.

3. Socioeconomic Status and Direct or Indirect Enrollment in an Occupation-Centered Curriculum. There is a much stronger tendency for male than for female terminal students with middle socioeconomic status to have enrolled in college credit transfer programs before enrolling in occupation-centered curricula. Medium scholastic aptitude terminal students with middle socioeconomic status are more likely to complete a program than are those with high or low socioeconomic status.

Individuals with this set of characteristics make up a substantial portion of all public junior college students. This group would appear to carry a strong potential to (1) shift to an occupation-centered curriculum from a college credit program, and (2) complete a terminal curriculum once enrolled in it.

Perhaps a more effective use of limited resources would

be to focus the junior college counseling effort on male students with medium scholastic aptitude and middle socioeconomic status.

Further research could be carried out to identify elements of the construct "socioeconomic status" which show a definite relationship with given manifestations of the process of occupational choice such as making a basic shift in educational program.

4. High School Course of Study and Direct or Indirect Enrollment in an Occupation-Centered Curriculum. A greater proportion of men than of women terminal students had followed college preparatory courses of study in high school. These men provided the largest percentage of completers of terminal programs, although the percentage of completers among men who had followed occupational courses of study in high school was almost as large.

A rather strong relationship was found between following an occupational course of study in high school and enrolling directly in a terminal curriculum in junior college.

Men with middle socioeconomic status enrolled in terminal curricula provided the largest percentage of indirect terminal students, and the largest percentage of completers of terminal programs.

The inference may be drawn that if high schools would offer more occupational courses appropriate for boys, and if educational guidance could be made more effective, greater numbers of young men would probably pursue such courses of study in high school. And subsequently, more of them might enroll directly in and complete occupation-centered curricula in public junior colleges.

F. A Concluding Observation

The most basic concern of this study has been with the relationship between socioeconomic status and level of attainment in education. Verification of the liklihood that under certain circumstances this relationship will vary with the kind of education undertaken by the individual constitutes a refinement of the general theory that the lower the socioeconomic status of the individual the more likely it is that his educational attainments will also be low.

VII. References

Books

1. McConnell, T. R. A General Pattern for American Public Higher Education. New York: McGraw-Hill. 1962. 190p.

2. Medsker, Leland L. The Junior College: Progress and Prospect. New York: McGraw-Hill. 1960. 367p.

3. The Yearbook Committee. The Public Junior College. Chicago: National Society for the Study of Education, 55th Yearbook, Part I. 1956. 347p.

4. Venn, Grant. Man, Education and Work. Washington, D. C.: American Council on Education. 1964. 184p.

5. Warner, Lloyd; Havighurst, R. J.; and Loeb, M. B. Who Shall Be Educated? New York: Harper and Brothers. 1944. 190p.

6. Wolfle, Dael. America's Resources of Specialized Talent. New York: Harper and Brothers. 1954. 332p.

Article

7. Lange, Alexis P. "The Junior College as an Integral Part of the Public School System," School Review. 25, September 1917. p. 348-365.

Government Publications

8. Bureau of the Census. Statistical Abstract of the United States. Washington, D. C.: Government Printing Office. 1965.

9. Higher Education. Appendix One, "The Demand for Places in Higher Education." Report of the Committee Appointed by the Prime Minister under the Chairmanship of Lord Robbins, 1961-63. London: Her Majesty's Stationery Office. 1963.

10. Manpower Report of the President, 1965. Washington, D. C.: Government Printing Office. 1965.

Other

11. Eskow, Seymour. Barron's Guide to the Two Year Colleges. Great Neck, New York: Barron's Educational Series, Inc. 1960.

12. Medsker, Leland L. "The Junior College Student," Junior College Student Personnel Programs: Appraisal and Development. New York: Carnegie Corporation. 1965. p. 1-29.

13. Medsker, Leland L.; and Trent, James W. The Influence of Different Types of Public Higher Institutions on College Attendance From Varying Socio-Economic and Ability Levels. Berkely, California: Center for the Study of Higher Education, University of California. 1965. 107p.

14. The High School Graduate Study was conducted by Leland L. Medsker and James W. Trent of the University of California at Berkeley. Cooperative Research Project No. 438, U. S. Office of Education. T. R. McConnell, Principal Investigator.

APPENDIX A

CONVERSION OF HIGH SCHOOL APTITUDE TEST SCORES TO A COMMON MEASURE

Aptitude test scores were available from all of the participating high schools, although they represented 18 different forms of 11 different tests administered at various times between the ninth and twelth grades.

To develop a common measure that would indicate the relative scholastic aptitude of the 10,000 graduating seniors, the School and College Ability Test, Form 1A was selected as the measure to which all other tests would be equated. The two reasons for choosing the SCAT as the common measure were:

(1) This test was the most commonly used in the participating high schools.

(2) It was judged to be the most familiar to those in the field.

Scores on the SCAT were available for 1,033 graduating seniors from four high schools in one community. Percentile ranks based on these scores were computed for the 1033 students. Percentile ranks were also computed for each one of the other tests. These ranks were based on all individuals for whom scores on a particular test at a given level could be found. These scores were plotted on one axis, those of the SCAT on the other axis. Points were then plotted where scores of the two tests had the same percentile rank, and a smooth curve was drawn through these points. Equivalent scores for the two tests were assumed to fall on the curve. This process was repeated for all the different tests. From curves developed in this way, a table of equivalent values was constructed for each test.

The method of equating scores was developed, and the necessary computations carried out, by personnel from the Center for the Study of Higher Education, University of California, Berkeley for the High School Graduate Study, a research project conducted under contract with the U. S. Office of Education, Cooperative Research Project No. 438, T. R. McConnell, Principal Investigator.

APPENDIX B

TABULAR PRESENTATION OF DATA

I. Terminal Students Described

A. Terminal Students and Graduating Seniors Compared in Terms of Selected Characteristics

Table 1

Terminal Students and Graduating Seniors, by Socioeconomic Status - Per Cent

Socioeconomic Status	Graduating Seniors (N 8784)	Terminal Students (N 284)
High	15%	11%
Middle	62%	67%
Low	23%	22%

Table 2

Terminal Students, by Sex and Socioeconomic Status - Per Cent

Socioeconomic Status	Men (N 135)	Women (N 149)
High	10%	11%
Middle	63%	69%
Low	27%	20%

Table 3

Terminal Students and Graduating Seniors, by Scholastic Aptitude - Per Cent

Scholastic Aptitude	Graduating Seniors (N 9289)	Terminal Students (N 307)
High	34%	22%
Medium	40%	42%
Low	26%	36%

Table 4

Terminal Students, by Sex and
Scholastic Aptitude - Per Cent

Scholastic Aptitude	Men (N 147)	Women (N 160)
High	21%	22%
Middle	37%	47%
Low	41%	31%

Table 5

Terminal Students and Graduating Seniors, by
Course of Study Followed in High School - Per Cent

High School Course of Study	Graduating Seniors (N 9778)	Terminal Students (N 319)
Occupational	29%	42%
General	23%	19%
College Preparatory	40%	32%
Unclassified	8%	7%

Table 6

Terminal Students, by Sex and Course of
Study Followed in High School - Per Cent

High School Course of Study	Men (N 153)	Women (N 166)
Occupational	32%	51%
General	24%	13%
College Preparatory	35%	31%
Unclassified	9%	5%

B. Characteristics of Terminal Students in Categories of Two Year Occupation-Centered Curricula

Eight categories of "terminal majors" used in the original coding have been collapsed into five. The collapsed categories are as follows: Secretarial and Office Practice; Drafting and Engineering Aides, and Machine and Electronic Trades; Medical, including x-ray, laboratory and dental technicians, and nurses; Business, including sales, management and bookkeeping; and Other, a category covering a number of programs of limited enrollment such as photography, art, airline training, agriculture and forestry, and hotel and restaurant training programs.

The Drafting, Engineering, Machine and Electronic Trades Category includes 59 men and only two women. The Medical category, on the other hand, includes 37 women and two men, while there are no men at all in the Secretarial and Office Practice category. These three groups will be reported as if they were either all men or all women. Therefore, data in Tables 7, 9, and 11 constitute distributions by sex as well as by other variables for enrollees in these three categories.

Table 7

Terminal Students, by Occupation-Centered Curricula and Socioeconomic Status - Per Cent

Curricular Categories		Socioeconomic Status		
		High	Middle	Low
Secretarial Science and Office Practice	(N 37)	8%	70%	22%
Drafting, Engineering, Machine and Electronic Trades	(N 61)	6%	62%	32%
Medical	(N 37)	5%	76%	19%
Business	(N 92)	16%	65%	19%
Other	(N 58)	12%	62%	26%

Table 8

Business and Other Terminal Students, by Sex and Socioeconomic Status - Per Cent

Curricular Categories		Socioeconomic Status and Sex					
		High		Middle		Low	
		M	W	M	W	M	W
Business	(N 92)	8%	8%	23%	42%	4%	15%
Other	(N 58)	10%	2%	50%	12%	19%	7%

Table 9

Terminal Students, by Occupation-Centered Curricula and Scholastic Aptitude - Per Cent

Curricular Categories		Scholastic Aptitude Categories		
		High	Medium	Low
Secretarial Science and Office Practice	(N 35)	23%	46%	31%
Drafting, Engineering, Machine and Electronic Trades	(N 59)	26%	34%	40%
Medical	(N 38)	37%	47%	16%
Business	(N 100)	19%	43%	38%
Other	(N 66)	14%	46%	40%

Table 10

Business and Other Terminal Students, by Sex and Scholastic Aptitude - Per Cent

Curricular Categories		Scholastic Aptitude Categories and Sex					
		High		Medium		Low	
		M	W	M	W	M	W
Business	(N 100)	6%	13%	13%	30%	15%	23%
Other	(N 66)	12%	2%	35%	11%	33%	7%

Table 11

Terminal Students, by Occupation-Centered Curricula and Course of Study Followed in High School - Per Cent

Curricular Category		High School Course of Study			
		Occ.	General	Coll. P.	Unc.
Secretarial Science and Office Practice	(N 38)	63%	13%	24%	
Drafting, Engineering, Machine and Electronic Trades	(N 61)	26%	20%	44%	10%
Medical	(N 28)	6%	9%	76%	9%
Business	(N 100)	57%	21%	18%	4%
Other	(N 65)	40%	24%	28%	8%

Table 12

Business and Other Terminal Students, by Sex and Course of Study Followed in High School - Per Cent

Curricular Category	High School Course of Study and Sex							
	Occ.		General		Coll P.		Unc.	
	M	W	M	W	M	W	M	W
Business (N 100)	11%	46%	11%	10%	10%	8%	2%	2%
Other (N 65)	33%	7%	20%	4%	20%	8%	6%	2%

II. Socioeconomic Status and Completion of an Occupation-Centered Curriculum

A. Comparisons on Basic Variables

Table 13

Completers and Noncompleters, by Socioeconomic Status - Number and Per Cent

Socioeconomic Status	Completers	Noncompleters
High	32% (9)	68% (19)
Middle	42% (71)	58% (98)
Low	43% (26)	57% (37)

When the Chi square test is applied the result is 1.02. The null hypothesis therefore cannot be rejected.

Table 14

Male Completers and Noncompleters, by Socioeconomic Status

Socioeconomic Status	Male Completers	Male Noncompleters
High	6	7
Middle	39	37
Low	14	20

When the Chi square test is applied the result is .985. The null hypothesis therefore cannot be rejected.

Table 15

Female Completers and
Noncompleters, by Socioeconomic Status

Socioeconomic Status	Female Completers	Female Noncompleters
High	3	12
Middle	32	61
Low	12	17

When the Chi square test is applied the result is 2.01. The null hypothesis therefore cannot be rejected.

Table 16

Per Cent of Males and Females Completing
a Terminal Program, by Socioeconomic Status

Socioeconomic Status	Percent Males Completing	Percent Females Completing
High	46% (6)	20% (3)
Middle	51% (39)	34% (32)
Low	41% (14)	41% (12)

Table 17

Completers and Noncompleters, by
Scholastic Aptitude - Number and Per Cent

Scholastic Aptitude	Completers	Noncompleters
High	55% (32)	45% (26)
Medium	40% (49)	60% (72)
Low	30% (31)	70% (72)

When the Chi square test is applied the result is 9.79. The null hypothesis therefore is rejected.

Table 18

Male Completers and
Noncompleters, by Scholastic Aptitude

Scholastic Aptitude	Male Completers	Male Noncompleters
High	19	9
Medium	23	27
Low	21	35

When the Chi square test is applied the result is 6.94. The null hypothesis therefore is rejected.

Table 19

Female Completers and
Noncompleters, by Scholastic Aptitude

Scholastic Aptitude	Female Completers	Female Noncompleters
High	13	17
Medium	26	45
Low	10	37

When the Chi square test is applied the result is 4.77. The null hypothesis therefore cannot be rejected.

Table 20

Per Cent of Males and Females Completing
a Terminal Program, by Scholastic Aptitude

Scholastic Aptitude	Percent Males Completing	Percent Females Completing
High	68% (19)	43% (13)
Medium	46% (23)	37% (26)
Low	38% (21)	21% (10)

Table 21

Completers and Noncompleters, by High School Course of Study - Number and Per Cent

High School Course of Study	Completers	Noncompleters
Occupational	37% (46)	63% (77)
General	24% (14)	76% (43)
College Prep	52% (48)	48% (45)

When the Chi square test is applied the result is 11.26. The null hypothesis therefore is refected.

Table 22

Male Completers and Noncompleters, by High School Course of Study

High School Course of Study	Male Completers	Male Noncompleters
Occupational	22	20
General	10	27
College Prep	28	20

When the Chi square test is applied the result is 8.98. The null hypothesis therefore is rejected.

Table 23

Female Completers and Noncompleters, by High School Course of Study

High School Course of Study	Female Completers	Female Noncompleters
Occupational	24	57
General	4	16
College Prep	20	25

When the Chi square test is applied the result is 4.62. The null hypothesis therefore cannot be rejected.

Table 24

Per Cent of Males and Females Completing
a Terminal Program, by High School Course of Study

High School Course of Study	Percent Male Completers	Percent Female Completers
Occupational	52% (22)	30% (24)
General	27% (10)	20% (4)
College Prep	58% (28)	44% (20)

Table 25

Completers and Noncompleters, by
Scholastic Aptitude and Socioeconomic Status

Scholastic Aptitude	Completers Socioeconomic Status			Noncompleters Socioeconomic Status		
	High	Middle	Low	High	Middle	Low
High	1	25	5	2	10	6
Medium	4	31	10	19	44	34
Low	4	13	9	5	12	15

Table 26

Medium Scholastic Aptitude
Completers and Noncompleters, by
Socioeconomic Status - Number and Per Cent

	Socioeconomic Status		
	High	Middle	Low
Completers	17% (4)	41% (31)	23% (10)
Noncompleters	83% (19)	59% (44)	77% (34)

When the Chi square test is applied the result is 7.03. The null hypothesis therefore is rejected.

Table 27

Low Scholastic Aptitude
Completers and Noncompleters, by
Socioeconomic Status - Number and Per Cent

	Socioeconomic Status		
	High	Middle	Low
Completers	45% (4)	52% (13)	38% (9)
Noncompleters	55% (5)	48% (12)	62% (15)

When the Chi square is applied the result is 1.05. The null hypothesis therefore cannot be rejected.

Table 28

Completers and Noncompleters, by High
School Course of Study and Socioeconomic Status

High School Course of Study	Completers Socioeconomic Status			Noncompleters Socioeconomic Status		
	High	Middle	Low	High	Middle	Low
Occupational	6	26	11	9	45	14
General	0	11	2	4	23	10
College Prep	3	29	12	6	23	11

Table 29

Occupational High School Course of
Study Completers and Noncompleters, by
Socioeconomic Status - Number and Per Cent

	Socioeconomic Status		
	High	Middle	Low
Completers	40% (6)	40% (26)	44% (11)
Noncompleters	60% (9)	60% (45)	56% (14)

When the Chi square test is applied the result is .40. The null hypothesis therefore cannot be rejected.

Table 30

College Preparatory High School Course of Study
Completers and Noncompleters, by Socioeconomic Status

	Socioeconomic Status		
	High	Middle	Low
Completers	33% (3)	56% (29)	56% (12)
Noncompleters	67% (6)	44% (23)	44% (11)

When the Chi square test is applied the result is 1.53. The null hypothesis therefore cannot be rejected.

III. Selected Characteristics and a Shift in Program

A. Socioeconomic Status and a Shift in Program

Table 31

Direct and Indirect Terminal Students,
by Socioeconomic Status - Number and Per Cent

Socioeconomic Status	Direct Terminals	Indirect Terminals
High	83% (25)	17% (5)
Middle	78% (147)	22% (42)
Low	88% (57)	12% (8)

When the Chi square test is applied the result is 3.21. The null hypothesis therefore cannot be rejected.

Table 32

Male Direct and Indirect Terminals, by
Socioeconomic Status - Number and Per Cent

Socioeconomic Status	Direct Terminals	Indirect Terminals
High	86% (12)	14% (2)
Middle	68% (58)	32% (27)
Low	83% (30)	17% (6)

When the Chi square test is applied the result is 4.11. The null hypothesis therefore cannot be rejected.

Table 33

Female Direct and Indirect Terminals, by
Socioeconomic Status - Number and Per Cent

Socioeconomic Status	Direct Terminals	Indirect Terminals
High	81% (13)	19% (3)
Middle	86% (89)	14% (15)
Low	93% (27)	7% (2)

There are an insufficient number of cases in too many cells of this table to permit Chi square analysis.

B. Scholastic Aptitude and a Shift in Program

Table 34

Direct and Indirect Terminals, by
Scholastic Aptitude - Number and Per Cent

Scholastic Aptitude	Direct Terminals	Indirect Terminals
High	78% (53)	22% (15)
Medium	81% (105)	19% (24)
Low	85% (94)	15% (16)

When the Chi square test is applied the result is 1.68. The null hypothesis therefore cannot be rejected.

Table 35

Male Direct and Indirect Terminals, by
Scholastic Aptitude - Number and Per Cent

Scholastic Aptitude	Direct Terminals	Indirect Terminals
High	62% (20)	38% (12)
Medium	74% (40)	26% (14)
Low	84% (51)	16% (10)

When the Chi square test is applied the result is 5.19. The null hypothesis therefore cannot be rejected.

Table 36

Women Direct and Indirect Terminals,
by Scholastic Aptitude - Number and Per Cent

Scholastic Aptitude	Direct Terminals	Indirect Terminals
High	92% (33)	8% (3)
Medium	87% (65)	13% (10)
Low	88% (43)	12% (6)

When the Chi square test is applied the result is .65. The null hypothesis therefore cannot be rejected.

C. High School Course of Study and a Shift in Program

Table 37

Direct and Indirect Terminals, by
High School Course of Study - Number and Per Cent

High School Course of Study	Direct Terminals	Indirect Terminals
Occupational	90% (122)	10% (13)
General	78% (46)	22% (13)
College Prep	74% (76)	26% (27)

When the Chi square test is applied the result is 14.04. The null hypothesis therefore is rejected.

Table 38

Male Direct and Indirect Terminals, by
High School Course of Study - Number and Per Cent

High School Course of Study	Direct Terminals	Indirect Terminals
Occupational	84% (42)	16% (8)
General	78% (29)	22% (8)
College Prep	65% (34)	35% (18)

When the Chi square test is applied the result is 4.99. The null hypothesis therefore cannot be rejected.

Table 39

Female Direct and Indirect Terminals, by
High School Course of Study - Number and Per Cent

High School Course of Study	Direct Terminals	Indirect Terminals
Occupational	94% (80)	6% (5)
General	77% (12)	23% (5)
College Prep	82% (42)	18% (9)